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(71) Applicant (*for all designated States except US*): SIG-MAKALON SERVICES B.V. [NL/NL]; Amsterdamseweg 14, NL-1422 AD Uithoorn (NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): GILLARD, Michel [BE/BE]; Rue Jean Froissart, 6/102, B-1348 Louvain-la-Neuve (BE). VOS, Marcel [NL/BE]; Rue Cheval Godet, 78, B-1400 Nivelles (BE).

(74) Agents: WALSH, David, Patrick et al.; Appleyard Lees, 15 Clare Road, Halifax HX1 2HY (GB).

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(54) Title: SILYL ESTERS, THEIR USE IN BINDER SYSTEMS AND PAINT COMPOSITIONS AND A PROCESS OF PRODUCTION THEREOF

(57) Abstract: The use of an organosilyl ester as an alkaline hydrolysis or erodability booster for the binder system of a paint formulation is described. The booster is used in paint formulations which require hydrolysis of one or more of the components of the paint in use. The organosilyl esters of the invention may also independently be film forming. The organosilyl ester may be the ester of a carboxylic, sulphonic or phosphoric acid. The binder systems of the invention can be used in paint compositions, such as self-polishing antifouling paints.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C09D5/16 C07F7/18 C08G77/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 C09D C07F C08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	EP 1 308 484 A (SIGMA COATINGS BV) 7 May 2003 (2003-05-07) abstract paragraphs '0014! - '0017!, '0025!, '0034! page 5, line 3 & WO 03/037999 A (SIGMA COATINGS BV) 8 May 2003 (2003-05-08) cited in the application	1,3-5, 14,23,24
X, P	-----	1,3-5, 14,23,24
X	EP 1 295 888 A (SIGMA COATINGS BV) 26 March 2003 (2003-03-26) abstract paragraphs '0001!, '0014!	16
X	& WO 03/027124 A (SIGMA COATINGS BV) 3 April 2003 (2003-04-03) cited in the application	16
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Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Girard, Y

INTERNATIONAL SEARCH REPORTInternational Application No
PCT/EP2004/004997**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00/77102 A (ELBRO HELLE SIMON ; GLADWIN TIM SCOTT (DK); BUCHWALD FRANTS (DK); H) 21 December 2000 (2000-12-21) abstract -----	1,6-8,12

INTERNATIONAL SEARCH REPORT

 International Application No
PCT/EP2004/004997

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 1308484	A	07-05-2003		EP 1308484 A1 BR 0213559 A CA 2462927 A1 EG 23246 A WO 03037999 A1 EP 1448723 A1 HR 20040434 A2		07-05-2003 26-10-2004 08-05-2003 29-09-2004 08-05-2003 25-08-2004 31-08-2004
WO 03037999	A	08-05-2003		EP 1308484 A1 BR 0213559 A CA 2462927 A1 EG 23246 A WO 03037999 A1 EP 1448723 A1 HR 20040434 A2		07-05-2003 26-10-2004 08-05-2003 29-09-2004 08-05-2003 25-08-2004 31-08-2004
EP 1295888	A	26-03-2003		EP 1295888 A1 WO 03027124 A1 EP 1427736 A1 US 2005014963 A1		26-03-2003 03-04-2003 16-06-2004 20-01-2005
WO 03027124	A	03-04-2003		EP 1295888 A1 WO 03027124 A1 EP 1427736 A1 US 2005014963 A1		26-03-2003 03-04-2003 16-06-2004 20-01-2005
WO 0077102	A	21-12-2000		AT 246229 T AU 5061800 A CN 1370205 T DE 60004248 D1 DE 60004248 T2 WO 0077102 A1 EP 1208167 A1 JP 2003502473 T NO 20015695 A		15-08-2003 02-01-2001 18-09-2002 04-09-2003 15-04-2004 21-12-2000 29-05-2002 21-01-2003 08-02-2002